

Severe Weather Event - April 12, 2014



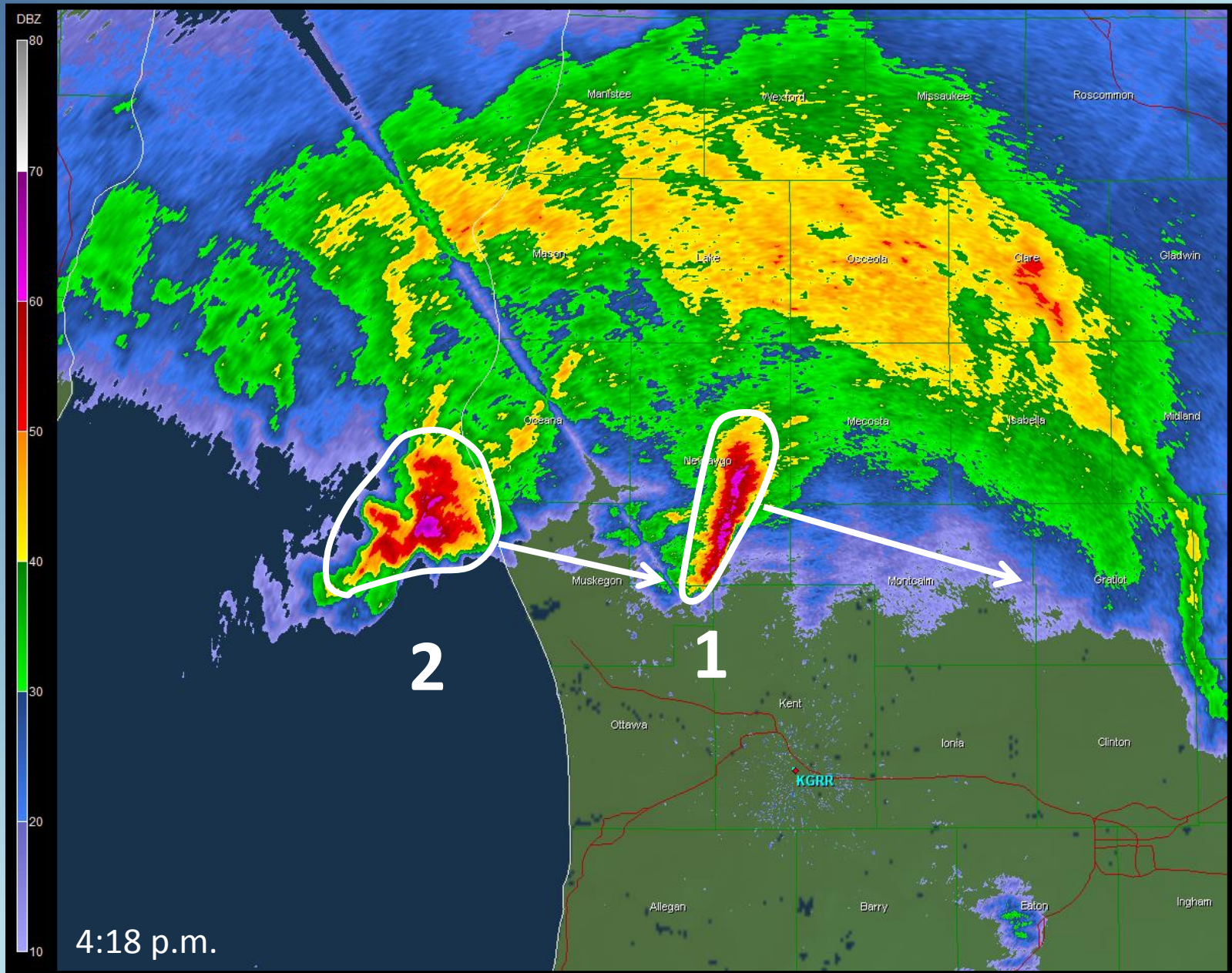
Courtesy: Eric Hutchinson



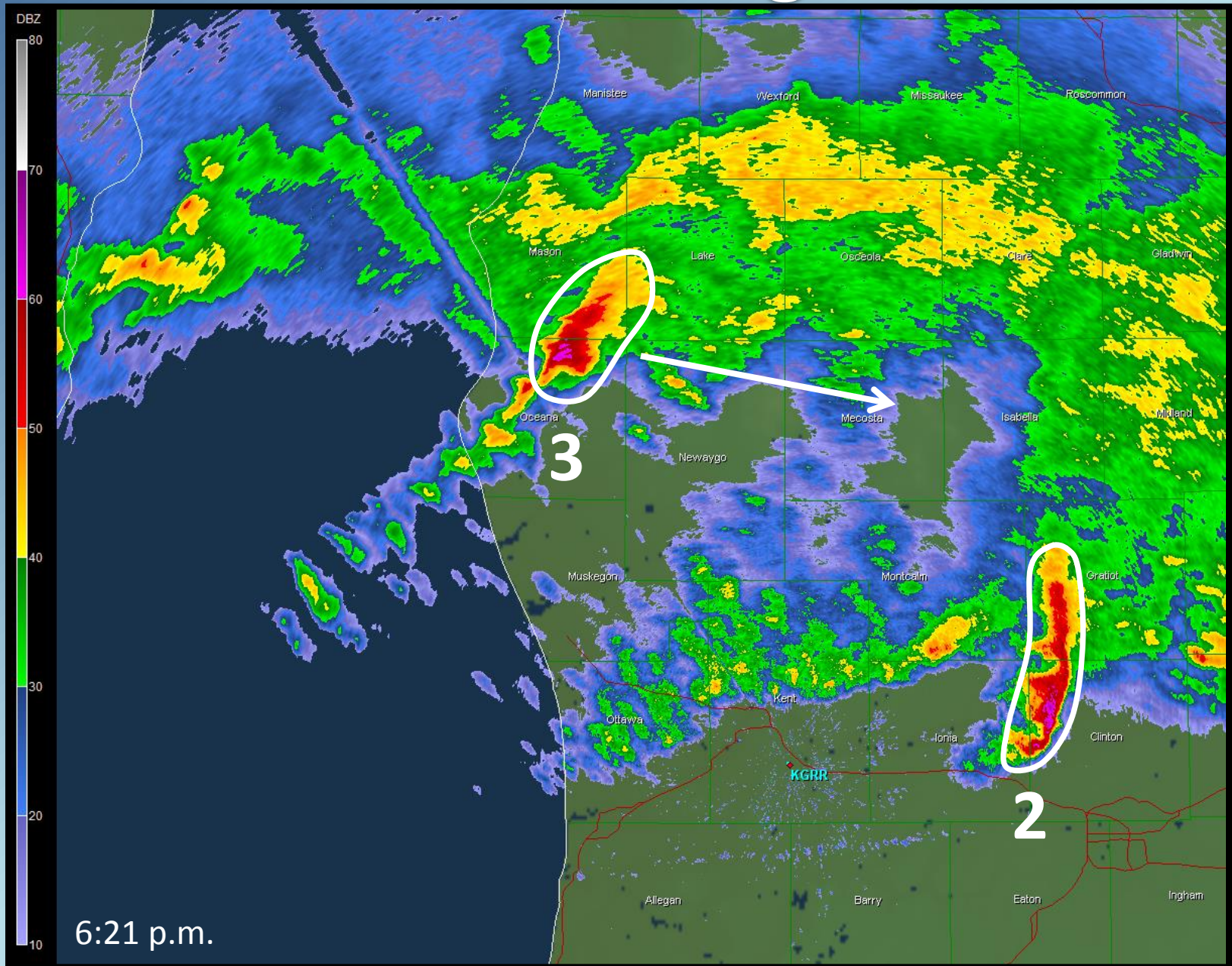
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- Damage resulted from straight line winds
- Witnesses reported winds lasting 3 to 5 minutes
- Damage consistent with winds gusting to 75 to 85 mph over a few minutes
- Winds equivalent to EF-0 on the [Enhanced Fujita Scale](#)

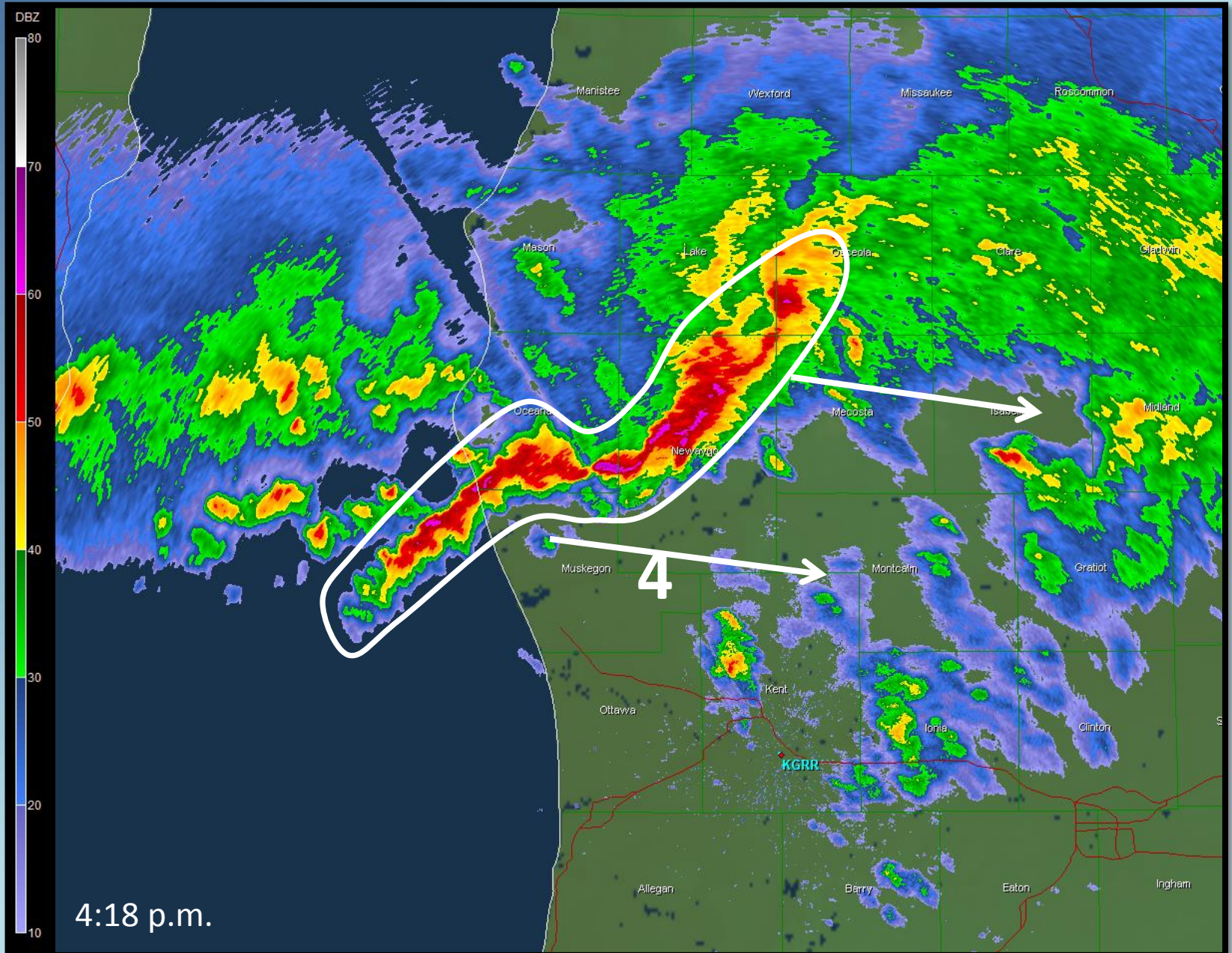
Radar Images



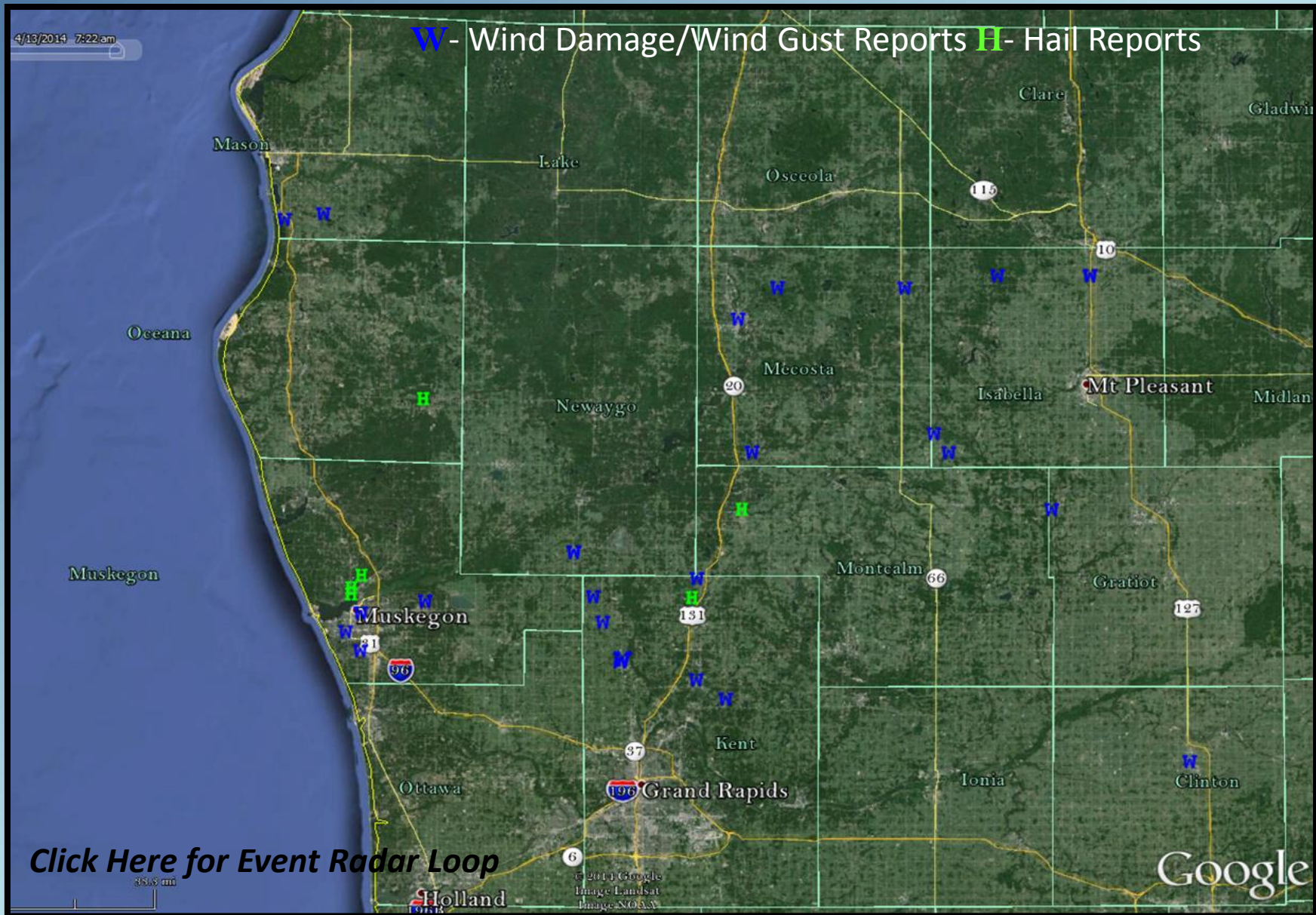
Radar Images



Radar Images



Severe Weather Reports



Severe Weather Reports

- Storms developed along a warm front around 3 p.m., lasting through the night
- Individual cells gained strength and trained over similar geographic locations
- Many thunderstorm wind gust and damage reports were received
- Hail as large as quarters accumulated enough in some areas to cover the ground

| ..TIME... | ...EVENT... | ...CITY LOCATION... | ...LAT.LON... |
|-----------------------|--|--------------------------------|----------------------------------|
| ..DATE... | ...MAG.... | ..COUNTY LOCATION..ST.. | ...SOURCE.... |
| | ..REMARKS.. | | |
| 0345 PM 04/12/2014 | TSTM WND DMG | 4 E SUMMIT TWP MASON MI | 43.86N 86.33W TRAINED SPOTTER |
| | SPOTTER REPORTED A PINE TREE WAS UPROOTED AND FELL ON A HOUSE ON MEISENHEIMER ROAD SOUTH OF LUDINGTON. ALSO REPORTED STANDING WATER ON THE ROAD AT SCHOENER AND DEWEY ROADS. | | |
| 0350 PM 04/12/2014 | TSTM WND GST E50.00 MPH | 2 NNW MUSKEGON MUSKEGON MI | 43.26N 86.27W TRAINED SPOTTER |
| | SPOTTER ESTIMATED WIND GUST | | |
| 0410 PM 04/12/2014 | TSTM WND DMG | GRANT NEWAYGO MI | 43.33N 85.81W LAW ENFORCEMENT |
| | ROOFS OFF MULTIPLE STRUCTURES WITH CAMPERS BLOWN OVER | | |
| 0416 PM 04/12/2014 | TSTM WND GST E50.00 MPH | 4 WNW ENSLEY TWP NEWAYGO MI | 43.36N 85.69W TRAINED SPOTTER |
| | SPOTTER REPORTED TREE DOWN NEAR 106TH STREET AND POWER WAS KNOCKED OUT | | |
| 0420 PM 04/12/2014 | TSTM WND GST M60.00 MPH | 4 SSE MUSKEGON MUSKEGON MI | 43.17N 86.24W ASOS |
| 0420 PM 04/12/2014 | TSTM WND GST M52.00 MPH | 3 NNW KENT CITY KENT MI | 43.26N 85.77W TRAINED SPOTTER |
| 0431 PM 04/12/2014 | TSTM WND DMG | 2 W SAND LAKE KENT MI | 43.29N 85.56W 911 CALL CENTER |
| | A TRAILER AND LOG CABIN HAVE LOST THEIR ROOF WHILE A BARN SUFFERED HEAVY DAMAGE. POWER LINES AND SEVERAL TREES HAVE ALSO BEEN REPORTED DOWN IN THE AREA. | | |
| 0440 PM 04/12/2014 | TSTM WND DMG | ROOSEVELT PARK MUSKEGON MI | 43.20N 86.27W TRAINED SPOTTER |
| | NUMEROUS TREE GREAT THAN 12 INCHES IN DIAMETER REPORTED DOWN. SPOTTER ALSO REPORTS THAT NUMEROUS BUSINESSES HAVE SUFFERED WINDOW DAMAGE IN MUSKEGON. ALL TREES WERE LAYING IN A SOUTH-SOUTHEAST DIRECTION. | | |
| 0444 PM 04/12/2014 | TSTM WND GST E50.00 MPH | TRUFANT MONTCALM MI | 43.31N 85.35W TRAINED SPOTTER |

Severe Weather Reports (cont'd)

| | | | | |
|--|----------------------------|----------------------------|----|-----------------------------------|
| 0450 PM 04/12/2014 | TSTM WND GST M57.00 MPH | MUSKEGON MUSKEGON | MI | 43.22N 86.25W TRAINED SPOTTER |
| HALF INCH HAIL FALLING. | | | | |
| 0455 PM 04/12/2014 | TSTM WND DMG | 1 ENE MUSKEGON MUSKEGON | MI | 43.23N 86.24W FIRE DEPT/RESCUE |
| FIRE-AMBULANCE RESPONSE TEAM CALLED TO REPORT ESTIMATED WINDS OF 65 MPH. STATED THAT SHINGLES WERE BLOWN OFF A ROOF ON A BUILDING NEAR THE FACILITY. | | | | |
| 0502 PM 04/12/2014 | TSTM WND DMG | WOLF LAKE MUSKEGON | MI | 43.25N 86.11W AMATEUR RADIO |
| HAM RADIO OPERATOR CALLED IN TO REPORT WINDS ESTIMATED AROUND 60 MPH. A TREE WAS SNAPPED IN HALF NEAR MACARTHUR ROAD THAT MEASURES ABOUT 12 INCHES IN DIAMETER | | | | |
| 0510 PM 04/12/2014 | TSTM WND DMG | 3 NNW KENT CITY KENT | MI | 43.26N 85.77W TRAINED SPOTTER |
| PINES TREES BLOWN OVER AND BARN ROOF DAMAGED | | | | |
| 0512 PM 04/12/2014 | TSTM WND DMG | GRANT NEWAYGO | MI | 43.33N 85.81W EMERGENCY MNGR |
| COUNTY EMERGENCY MANAGEMENT REPORTS A PLANE FLIPPED OVER AT THE GRANT AIRPORT. ALSO A METAL HANGAR WAS DESTROYED WITH DEBRIS SCATTERED ALL AROUND. | | | | |
| 0526 PM 04/12/2014 | TSTM WND DMG | KENT CITY KENT | MI | 43.22N 85.75W 911 CALL CENTER |
| LOCAL FORD DEALER HAS SUFFERED SEVERE ROOF DAMAGE | | | | |
| 0527 PM 04/12/2014 | TSTM WND GST E80.00 MPH | SPARTA KENT | MI | 43.16N 85.71W 911 CALL CENTER |
| LOCAL AND STATE POLICE HAVE ESTIMATED WIND GUSTS TO BE AT LEAST 80 MPH. | | | | |
| 0530 PM 04/12/2014 | TSTM WND GST E50.00 MPH | 4 SSW ROCKFORD KENT | MI | 43.07N 85.58W TRAINED SPOTTER |
| SEVERAL MATURE PINE TREES AND LARGE WILLOW TREES BLOW OVER IN THE BLYTHEFIELD ACRES SUB DIVISION. POWER IS ALSO OUT. | | | | |
| 0530 PM 04/12/2014 | TSTM WND GST M65.00 MPH | ROCKFORD KENT | MI | 43.13N 85.56W TRAINED SPOTTER |
| SPOTTER ALSO REPORTED NUMEROUS 2 TO 4 INCH TREE LIMBS DOWN. POWER IS OUT IN THE AREA AS WELL. | | | | |
| 0530 PM 04/12/2014 | TSTM WND DMG | SPARTA KENT | MI | 43.16N 85.71W 911 CALL CENTER |
| KENT COUNTY SHERRIF STATED THAT A GARAGE SUFFERED DAMAGE ALONG CENTENNIAL STREET | | | | |

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|--|----------------------------|----------------------------|----|-----------------------------------|
| 0535 PM 04/12/2014 | TSTM WND DMG | 3 ESE ROCKFORD KENT | MI | 43.10N 85.50W PUBLIC |
| REPORT OF SMALL TREE LIMBS DOWN. SHINGLES HAVE BLOWN OFF NEARBY HOUSES AS WELL HAS MAILBOX AND FENCE BLOWN OVER. | | | | |
| 0540 PM 04/12/2014 | TSTM WND GST U0.00 MPH | OAKFIELD TWP KENT | MI | 43.17N 85.38W FIRE DEPT/RESCUE |
| MEMBER OF OAKFIELD TOWNSHIP FIRE DEPT CALLED TO REPORT THAT SEVERAL TREES WERE DOWN...POWER LINES AND POLES DOWN. AN ESTIMATED 12 MILE SWATH OF EXTENSIVE DAMAGE EXISTS IN AND AROUND OAKFIELD TOWNSHIP. | | | | |
| 0631 PM 04/12/2014 | TSTM WND DMG | ST. JOHNS CLINTON | MI | 43.00N 84.56W FIRE DEPT/RESCUE |
| ROOF PANELING HAS BEEN TORN OFF THE FIRE STATION. POWER LINES ARE DOWN AND POWER OUTAGES ARE BEING REPORTED. PEA SIZE HAIL ACCOMPANIED THE STORM. | | | | |
| 0634 PM 04/12/2014 | TSTM WND GST E50.00 MPH | SHELBY OCEANA | MI | 43.61N 86.36W TRAINED SPOTTER |
| 0755 PM 04/12/2014 | TSTM WND DMG | 5 NNE PENTWATER MASON | MI | 43.85N 86.41W EMERGENCY MNGR |
| REPORTS OF MULTIPLE TYPES OF DAMAGE IN SUMMIT AND RIVERTON TOWNSHIPS. DAMAGE INCLUDES IRRIGATION PIVOTS TIPPED OVER...TREES DOWN...AND DAMAGE TO BUILDINGS. | | | | |
| 0900 PM 04/12/2014 | TSTM WND DMG | 6 NE BIG RAPIDS MECOSTA | MI | 43.75N 85.40W TRAINED SPOTTER |
| SIGNIFICANT WIND DAMAGE IN GREEN TOWNSHIP. TIME APPROXIMATE. TWO OVERTURNED TRAILERS AND SEVERAL LARGE TREES UPROOTED. | | | | |
| 0900 PM 04/12/2014 | TSTM WND DMG | BIG RAPIDS MECOSTA | MI | 43.70N 85.48W EMERGENCY MNGR |
| EMERGENCY MANAGER REPORTS THAT A TRAILER HAS BEEN BLOWN OVER AND NUMEROUS TREES DOWN AND POWER OUTAGES IN BIG RAPIDS. | | | | |
| 0906 PM 04/12/2014 | TSTM WND GST M56.00 MPH | BIG RAPIDS MECOSTA | MI | 43.70N 85.48W PUBLIC |
| MEASURED ON THE CAMPUS OF FERRIS STATE UNIVERSITY. | | | | |
| 0910 PM 04/12/2014 | TSTM WND DMG | MORLEY MECOSTA | MI | 43.49N 85.45W PUBLIC |
| REPORTS OF A BARN DOOR PUSHED IN...A YARD SHED DESTROYED...AND SIGNIFICANT DAMAGE TO A GARAGE ROOF AT A RESIDENCE. | | | | |

Severe Weather Reports (cont'd)

0925 PM TSTM WND DMG 6 N WEIDMAN 43.77N 84.95W
04/12/2014 ISABELLA MI 911 CALL CENTER

POSSIBLE BARN ROOF BLOWN OFF.

0930 PM TSTM WND DMG 6 N EDMORE 43.49N 85.05W
04/12/2014 ISABELLA MI TRAINED SPOTTER

A FEW HEALTHY TREES DOWN NEAR THE INTERSECTION OF JERSEYVILLE ROAD AND WYMAN ROAD. ONE TREE IS ON A HOUSE.

0930 PM TSTM WND DMG 4 S CLARE 43.77N 84.76W
04/12/2014 ISABELLA MI NWS EMPLOYEE

NWS EMPLOYEE RELAYED INFORMATION FROM RELATIVES/FRIENDS THAT A BARN HAD BEEN COMPLETELY DESTROYED...SEVERAL TREES WERE SNAPPED AND A PONTOON BOAT WAS LOFTED INTO THE MIDDLE OF AN OPEN FIELD. TIME WAS ESTIMATED BY RADAR.

0935 PM TSTM WND DMG BLANCHARD 43.52N 85.08W
04/12/2014 ISABELLA MI PUBLIC

WIDESPREAD WIND DAMAGE IN SOUTHWEST ISABELLA COUNTY. MANY UPROOTED/SNAPPED TREES...INCLUDING A LARGE SUGAR MAPLE THAT FELL ON A HOUSE ON WAYMAN ROAD. ALSO IN THE AREA OF WAYMAN AND JERSEYVILLE ROADS...A SHED WAS DESTROYED AND A CAMPER WAS FLIPPED AT LEAST ONCE AND IS NOW UPSIDE DOWN UP AGAINST THE HOUSE. A COUPLE IRRIGATION PIVOTS HAVE ALSO BEEN FLIPPED IN FIELDS.

0948 PM TSTM WND GST MOUNT PLEASANT 43.60N 84.77W
04/12/2014 E55.00 MPH ISABELLA MI TRAINED SPOTTER

HAIL TO 0.75 INCHES AND HEAVY RAINFALL ACCOMPANIED THE WINDS.

1010 PM TSTM WND DMG BARRYTON 43.75N 85.14W
04/12/2014 MECOSTA MI PUBLIC

TREES AND POWER LINES DOWN WITH SOME VEHICLES DAMAGED. PART OF A ROOF IS IN THE ROAD. RELAYED FROM WWTW.

1010 PM TSTM WND DMG 1 NNW RIVERDALE 43.40N 84.84W
04/12/2014 GRATIOT MI 911 CALL CENTER

DAMAGE TO A GARAGE ROOF AND SOME POWER LINES DOWN.

1016 AM TSTM WND DMG 4 E SUMMIT TWP 43.86N 86.33W
04/13/2014 MASON MI TRAINED SPOTTER

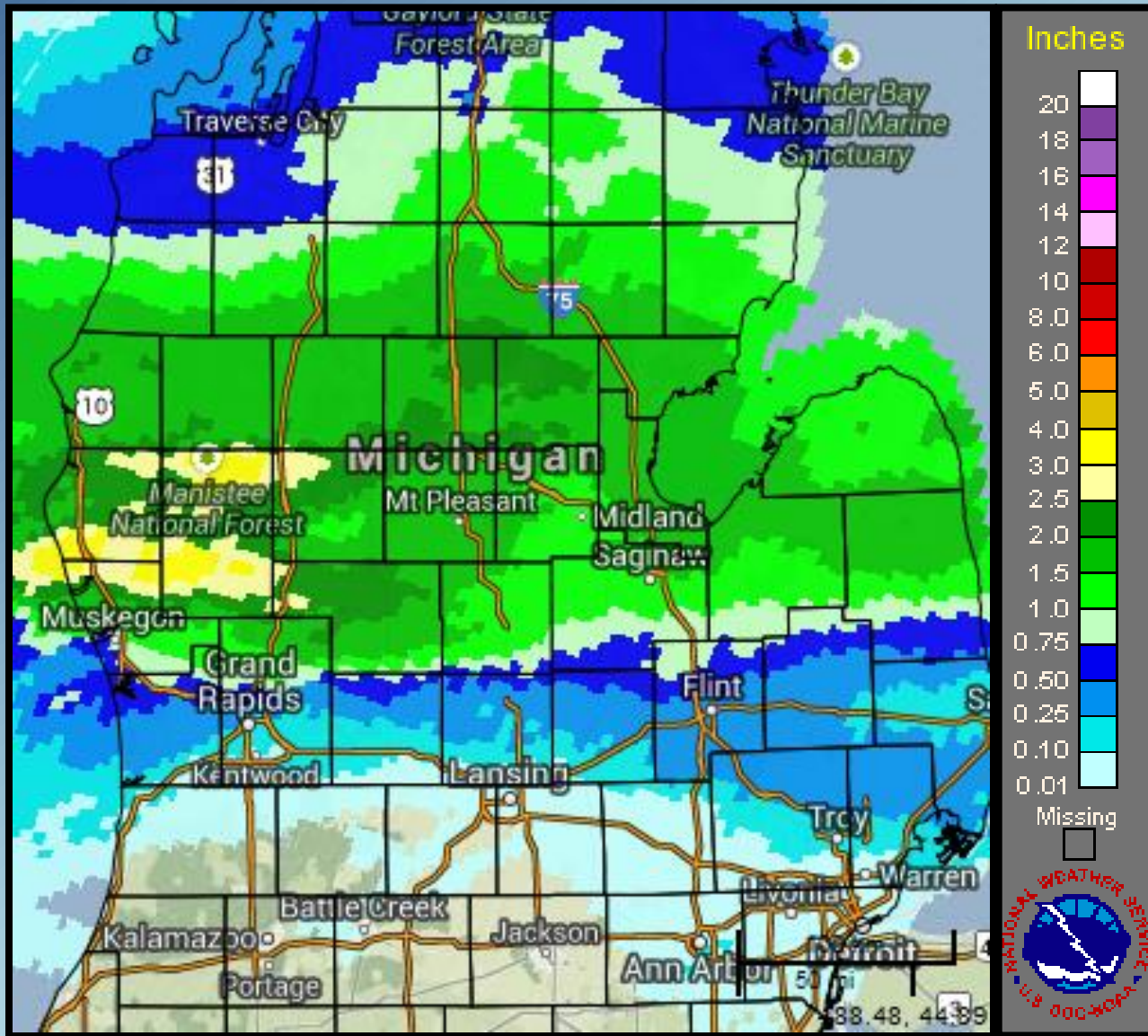
SPOTTER REPORTED A PINE TREE WAS UPROOTED AND FELL ON A HOUSE ON MEISENHEIMER ROAD SOUTH OF LUDINGTON. ALSO REPORTED WATER OVER THE ROAD NEAR SHOENER AND DEWEY ROADS.

HAIL REPORTS

| LOCATION | HAIL DIA (INCHES) | TIME/DATE OF OBSERVATION | LAT | LO |
|-------------------------|----------------------|-----------------------------|--------|--------|
| MICHIGAN | | | | |
| ...GRATIOT COUNTY... | | | | |
| ALMA | 0.50 M | 524 PM 04/12 | 43.38N | 84.66W |
| E ALMA | 0.50 E | 432 PM 04/12 | 43.38N | 84.65W |
| ...IONIA COUNTY... | | | | |
| 5 N IONIA | 0.75 M | 628 PM 04/12 | 43.06N | 85.06W |
| ...KENT COUNTY... | | | | |
| 3 SSW CEDAR SPRINGS | 0.75 M | 432 PM 04/12 | 43.17N | 85.57W |
| 3 NNW CEDAR SPRINGS | 1.00 M | 531 PM 04/12 | 43.26N | 85.57W |
| ...MASON COUNTY... | | | | |
| 3 S SCOTTVILLE | 0.70 M | 801 PM 04/12 | 43.91N | 86.28W |
| ...MONTICALLY COUNTY... | | | | |
| 3 W HOWARD CITY | 0.50 M | 442 PM 04/12 | 43.40N | 85.53W |
| WNW GREENVILLE | 0.50 M | 551 PM 04/12 | 43.18N | 85.26W |
| SW LAKEVIEW | 0.88 E | 453 PM 04/12 | 43.44N | 85.28W |
| HOWARD CITY | 1.00 M | 436 PM 04/12 | 43.40N | 85.47W |
| ...MUSKEGON COUNTY... | | | | |
| 3 NE MONTAGUE | 0.25 E | 445 PM 04/12 | 43.44N | 86.32W |
| 3 NNE WHITEHALL | 0.25 M | 334 PM 04/12 | 43.44N | 86.32W |
| 4 NNW MONTAGUE | 0.25 E | 334 PM 04/12 | 43.46N | 86.40W |
| 1 E TWIN LAKE | 0.50 M | 402 PM 04/12 | 43.37N | 86.16W |
| 3 NNW MONTAGUE | 0.50 M | 435 PM 04/12 | 43.45N | 86.39W |
| 3 S LAKEWOOD CLUB | 0.50 M | 440 PM 04/12 | 43.34N | 86.26W |
| 3 WNW MONTAGUE | 0.50 E | 330 PM 04/12 | 43.43N | 86.43W |
| 1 E TWIN LAKE | 0.88 M | 455 PM 04/12 | 43.37N | 86.15W |
| 2 N MUSKEGON | 1.00 M | 447 PM 04/12 | 43.26N | 86.26W |
| 3 N MUSKEGON | 1.00 M | 448 PM 04/12 | 43.27N | 86.26W |
| 5 N MUSKEGON | 1.00 M | 454 PM 04/12 | 43.29N | 86.24W |
| ...NEWAYGO COUNTY... | | | | |
| 3 E FREMONT | 0.25 M | 413 PM 04/12 | 43.46N | 85.89W |
| FREMONT | 0.25 M | 402 PM 04/12 | 43.46N | 85.95W |
| 4 NNE ENSLEY TWP | 0.70 E | 528 PM 04/12 | 43.40N | 85.60W |
| 4 NNE NEWAYGO | 0.70 E | 423 PM 04/12 | 43.48N | 85.77W |
| ...OCEANA COUNTY... | | | | |
| 4 SE STONY LAKE | 0.50 E | 825 PM 04/12 | 43.51N | 86.45W |
| HART | 0.70 E | 545 PM 04/12 | 43.70N | 86.36W |
| 2 SW SHELBY | 0.75 M | 821 PM 04/12 | 43.59N | 86.39W |
| 4 W HESPERIA | 1.00 E | 838 PM 04/12 | 43.57N | 86.12W |
| ...OSCEOLA COUNTY... | | | | |
| REMUS | 0.50 M | 738 PM 04/12 | 43.87N | 85.51W |

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Estimated Storm Total Rainfall



- Highest amounts fell along the Muskegon and Oceana County border and through Newaygo and Mecosta Counties
- Numerous reports of flooding
- Many roads impassable or closed due to high water
- Totals generally 1-3" in hardest hit areas of Central Lower Michigan